

REMARKS

Upon entry of the present amendment, claims 1 and 3-15 will remain pending in the above-identified application and stand ready for further action on the merits.

In the present amendment, claims 1 and 3 have been amended, and claim 2 has been cancelled. The instant amendments to the claims do not incorporate new matter into the application as originally filed, for example, the amendment to claim 1 finds support at page 5, lines 7-10, and the amendment to claim 3, simply changes the dependency thereof, based on claim 2's cancellation.

Claim Objection

The Examiner has objected to claim 2. Reconsideration and withdraw of this rejection is respectfully requested based on the cancellation of claim 2 herein.

Claim Rejections Under 35 USC § 103

Claims 1-5, 7-8 and 10 have been rejected under the provisions of 35 USC § 103(a) as being obvious and unpatentable over the disclosure of Ouderkirk et al. US '120 (US 5,783,120). Claim 9 has also been rejected under the provisions of 35 USC § 103(a) as being obvious and unpatentable over the disclosure of Ouderkirk et al. US '120, further in view of Hirai et al. US '327 (US 5,103,327), and claims 6 and 11 have also been rejected under the provisions of 35

USC § 103(a) as being obvious and unpatentable over the disclosure of Ouderkirk et al. US '120, further in view of Tsubata US '825 (US 5,762,825). Reconsideration and withdraw of each of these rejections is respectfully requested based on the amendments made herein and the following considerations.

Basic Requirements - Prima Facie Case of Obviousness

To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations.

The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in applicant's disclosure. In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

The present Invention and Its Advantages

The present invention relates to an anisotropic scattering film comprising a micro-porous film and a substance filled in micro pores of said micro-porous film as recited in claim 1. The

anisotropic scattering film has high transmittance and excellent scattering property.

Distinctions Over the Cited Art

Ouderkirk et al. US '120

At pages 3-4 of the office action, the Examiner states:

Ouderkirk et al. teaches that the film comprises a disperse phase within the continuous phase (column 3, lines 60-65). Fig. 3a of Ouderkirk below shows that the disperse phase is in the form of a particle embedded in the continuous phase, which is similar in structure to a pore filled with a solid substance. It can be seen that the particle is substantially in the form of an ellipse when observed on the surface of the film (dotted outline in Fig. 3a).

[Figure 3a]

Fig. 3a of Ouderkirk above shows that the disperse phase of Ouderkirk is similar in structure to a pore when the disperse phase is removed. Ouderkirk teaches that the pore (inclusion) size with respect to wavelength within the film, pore (inclusion) shape and alignment, pore (inclusion) volumetric fill factor and the degree of refractive index mismatch with the continuous matrix, can be manipulated to provide a range of scattering (reflective) transmissive properties to the film (column 1, lines 10-20).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to have used a micro-porous film with the desired pore characteristics which are subsequently filled by a substance, in lieu of the particle-embedded film of Ouderkirk, in order to obtain an anisotropic scattering film with the desired scattering and transmissive properties, as taught by Ouderkirk.

In response to the Examiner's contentions, Applicant's submit that in some embodiments Ouderkirk teaches the materials of the

continuous and disperse phases may be chosen so that the interface between the two phases will be sufficiently weak to result in voiding when the film is oriented. The average dimensions of the voids may be controlled through careful manipulation of processing parameters and stretch ratios, or through selective use of compatibilizers. The voids may be back-filled in the finished product with a liquid, gas or solid (see, column 16, lines 52-59).

Ouderkirk does not teach concretely about the voids (at the interface between the two phases), for example, the void shape, the void fraction in the micro-porous film, the minor axes size, etc.

At page 5 of the office action, the Examiner states:

Ouderkirk gives Examples 34-35, of the volume fraction of the disperse (minor) phase, and hence the micro-pores, as being 50(%) (see, column 25, lines 35-40) which is within the claimed range of 30 to 75, and teaches that it is dependent on the specific choice of materials for the continuous and disperse phases (see, column 12, lines 20-30).

In response, Ouderkirk also describes that the volume fraction of the disperse phase will typically be at least about 1% by volume relative to the continuous phase, more preferably within the range of about 5 to 15%, and most preferably within the range of about 15 to about 30% (see, column 12, lines 24-29). The volume fraction here is not the volume fraction of the voids. Ouderkirk does not teach specifically of a micro-porous film, which has a void fraction in the range of 30 to 85%.

Furthermore, the voids taught by Ouderkirk are dispersed separately in the film. On the other hand, the micropores of the present invention are substantially connected mutually through curved paths from the surface to the other surface of the film (see page 5 of the specification and instant amended claim 1).

Accordingly, it is clear that the micropores in the film of the present invention are completely different from those of Ouderkirk.

Hirai et al. US '327 and Tsubata et al. US '825

The secondary cited art references of Hirai et al. US '327 and Tsubata et al. US '825 neither teach nor suggest the specific anisotropic film of the present invention, and do not cure the deficiencies of the cited primary reference of Ouderkirk. Moreover, even upon combining their disclosures with those of the cited primary reference of Ouderkirk et al. US '120, one of ordinary skill in the art would in no way be motivated to arrive at the instant invention as claimed. Any contentions of the USPTO to the contrary must be reconsidered.

CONCLUSION

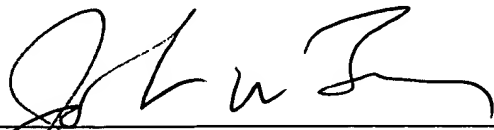
Based upon the amendments and remarks presented herein, the Examiner is respectfully requested to issue a Notice of Allowance indicating that each of pending claims 1 and 3-15 are allowed at present.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact John W. Bailey (Reg. No. 32,881) at the telephone number below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

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